

# **The probability of being better or worse off, and by how much, depending on experimental conditions with skew normal populations**

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## **Abstract**

Much research in the economics and social sciences is based on nonmeaningful units. A consequence is that substantive researchers often have difficulty in interpreting their data. If there is a one-point difference between the means in two conditions on, say, subjective well-being, it need not be clear how to interpret that difference. In addition, many researchers have criticized the typical conversion to standardized effect size indices, expressed as standard deviation units, such as Cohen's  $d$ . In contrast, we take a completely different approach that features conversion into a probability that a randomly selected person from one population will score higher on the dependent variable than a randomly selected person from the other population. Because most distributions are skewed, the mathematics to be presented fall under the large umbrella of skew normal distributions rather than under the smaller umbrella of normal distributions. Two real data examples are given for illustration of our main results.